

**REFT AVAILABLE CO**



**UNITED STATES PATENT AND TRADEMARK OFFICE**

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,649	11/28/2001	Kenjiro Ito	2204-0911944	5736

7590                    06/23/2003

Russell D. Orkin  
Webb Ziesenhein Logsdon Orkin & Hanson  
700 Koppers Building  
436 Seventh Avenue  
Pittsburgh, PA 15219-1818

EXAMINER

YEE, DEBORAH

ART UNIT                PAPER NUMBER

1742

DATE MAILED: 06/23/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

<i>Office Action Summary</i> <b>BEST AVAILABLE COPY</b>	Application No. 09/996,649 Examiner Deborah Yee	Applicant(s) ITO ET AL.						
		Art Unit 1742						
	-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --							
<p><b>Period for Reply</b></p> <p>A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.</p> <ul style="list-style-type: none"> <li>- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</li> <li>- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.</li> <li>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</li> <li>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).</li> <li>- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</li> </ul> <p><b>Status</b></p> <p>1)<input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>08 May 2003</u>.</p> <p>2a)<input checked="" type="checkbox"/> This action is <b>FINAL</b>.      2b)<input type="checkbox"/> This action is non-final.</p> <p>3)<input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i>, 1935 C.D. 11, 453 O.G. 213.</p> <p><b>Disposition of Claims</b></p> <p>4)<input checked="" type="checkbox"/> Claim(s) <u>1 and 3</u> is/are pending in the application.</p> <p>4a) Of the above claim(s) _____ is/are withdrawn from consideration.</p> <p>5)<input type="checkbox"/> Claim(s) _____ is/are allowed.</p> <p>6)<input checked="" type="checkbox"/> Claim(s) <u>1 and 3</u> is/are rejected.</p> <p>7)<input type="checkbox"/> Claim(s) _____ is/are objected to.</p> <p>8)<input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.</p> <p><b>Application Papers</b></p> <p>9)<input type="checkbox"/> The specification is objected to by the Examiner.</p> <p>10)<input type="checkbox"/> The drawing(s) filed on _____ is/are: a)<input type="checkbox"/> accepted or b)<input type="checkbox"/> objected to by the Examiner.</p> <p style="margin-left: 20px;">Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).</p> <p>11)<input type="checkbox"/> The proposed drawing correction filed on _____ is: a)<input type="checkbox"/> approved b)<input type="checkbox"/> disapproved by the Examiner.</p> <p style="margin-left: 20px;">If approved, corrected drawings are required in reply to this Office action.</p> <p>12)<input type="checkbox"/> The oath or declaration is objected to by the Examiner.</p> <p><b>Priority under 35 U.S.C. §§ 119 and 120</b></p> <p>13)<input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</p> <p>a)<input type="checkbox"/> All b)<input type="checkbox"/> Some * c)<input type="checkbox"/> None of:</p> <ol style="list-style-type: none"> <li>1.<input type="checkbox"/> Certified copies of the priority documents have been received.</li> <li>2.<input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____.</li> <li>3.<input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> </ol> <p>* See the attached detailed Office action for a list of the certified copies not received.</p> <p>14)<input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).</p> <p>a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.</p> <p>15)<input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.</p> <p><b>Attachment(s)</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">         1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)       </td> <td style="width: 50%;">         4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .       </td> </tr> <tr> <td>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</td> <td>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</td> </tr> <tr> <td>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .</td> <td>6) <input type="checkbox"/> Other: _____ .</td> </tr> </table>			1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .	2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)	3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .							
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)							
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) <input type="checkbox"/> Other: _____ .							

## DETAILED ACTION

*BEST AVAILABLE COPY**Response to Arguments*

Applicant's arguments with respect to claims 1 and 3 have been considered but are moot in view of the new ground(s) of rejection.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philip et al (US Patent 3,901,690) or Larson (US Patent 4,793,875).

Philip in claim 1 of columns 9 and 10, and Larson in claim 1 of columns 6 and 7, each teach an abrasion resistant steel alloy with constituents whose wt% ranges overlap those recited by the claims. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the prior art because overlapping ranges have been held to establish a prima facie case of obviousness, see *In re Malagari*, 182USPQ549 and MPEP 2112.01.

In regard to carbide content, Philip in claim 1 discloses columbium carbides of at least 0.07%, which overlaps with applicant's claimed carbide range of 0.1% or more. Moreover, even though Larson does not teach 0.1 wt% or more of carbides as recited by the claims, such would be expected to occur since composition limitations are met, see

**BEST AVAILABLE COPY**

specific prior art examples on lines 1 to 5, column 5, and lines 63 to 68, column 3 discloses carbides together with nitrides and carbonitrides are formed to increase hardness and abrasion resistance. It should also be noted that it is well known in the art and also taught by the cited prior art that carbides in a steel matrix increases abrasion resistance. Hence increasing the wt% of carbides in steel would produce no more than the known and expected effect of such an increase which is higher abrasion resistance. Hence the differences, if any, between the prior art and present invention would amount to no more than routine optimization of carbides to achieve the desired balancing of properties which is well within the skill of the artisan and productive of no new and unexpected results.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

**BEST AVAILABLE COPY**

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 703-308-1102. The examiner can normally be reached on Monday-Friday from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-873-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

dy  
June 17, 2003

  
DEBORAH YEE  
PRIMARY EXAMINER